

BRIDGE No. 475
Spanning the Pequabuck River on U.S. Route 6
Farmington
Hartford County
Connecticut

HAER No. CT-48

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Mid-Atlantic Regional Office
National Park Service
U.S. Department of the Interior
Philadelphia, Pennsylvania 19106

HISTORIC AMERICAN ENGINEERING RECORD

Bridge No. 475

HAER No. CT-48

Location: Spanning Pequabuck River on U.S. Route 6
Farmington, Hartford County, Connecticut

UTM: 18.678840.4618940
Quad: New Britain, Connecticut 1:24000

Date of Construction: 1927

Engineer: Connecticut Highway Commission staff

Fabricator: Berlin Construction Company

Contractor: L. Suzio Construction Company

Present Owner: State of Connecticut
Department of Transportation
24 Wolcott Hill Road
Wethersfield, Connecticut

Present Use: Vehicular bridge

Significance: Bridge No. 475 is significant as a representative example of standard twentieth century truss construction, as a project of Berlin Construction Company, a regionally-important bridge fabricator, and as part of an extensive system of improvements to Connecticut's trunk roads undertaken by the State Highway Department in the 1920s.

Project Information: This documentation was undertaken in September 1990 in response to a Memorandum of Agreement among the Advisory Council on Historic Preservation; the Division Administrator, Federal Highway Administration; and the Connecticut State Historic Preservation Office. The bridge has been scheduled for replacement, with relocation options presently being explored.

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Historical Context

The highway carried by Bridge No. 475, known as Scott Swamp Road at the time it was built, has been an important east-west route in central Connecticut since it was laid out in 1803 as the East Middle Turnpike, which led from Hartford through Farmington and Bristol and on to Waterbury and Danbury. It became a town road with the discontinuance of the turnpike in the middle nineteenth century, and although travel between the state's cities was increasingly the province of railroads, the road remained an important route for the immediate area, where it offered connections with major north-south highways.

By the 1920s, however, Scott Swamp Road had become inadequate for modern transportation needs. Although Connecticut state government was oblivious to most of the pressing issues of the day, it had responded to rural agricultural interests and the increasingly large amount of motor traffic by creating a state highway department which, after World War I, began to modernize the state's roads. Under the direction of the Connecticut Highway Commission, the state highway department aided towns in upgrading their local roads, dispensed aid from Federal highway programs, and undertook the direct reconstruction of the major highways connecting the state's cities and large towns.

Bridge No. 475 was replaced as part of a total rebuilding of 2.5 miles of Scott Swamp Road, undertaken in 1926 and 1927. In addition to providing a modern, paved road, two lanes in width, the project realigned curves, eliminated a railroad grade crossing, and rebuilt a series of inadequate bridges, of which this was the largest. The project cost \$108,185.24, plus another \$6,8892.00 for the bridge superstructure. Except for a token contribution by the Town of Farmington, the reconstruction was entirely state funded, with the bridge paid for out of the Trunk Line Bridge Appropriation.

The previous bridge at this location had been a single-span stone arch, 24' in length. Although generous by nineteenth century standards, its 17' width was clearly inadequate for the automobile age. In addition, the masonry of the bridge was severely deteriorated, probably because the arch's 6.5' rise provided inadequate hydraulic capacity. The Pequabuck River, although a small and sluggish stream in most seasons, was subject to rapid rises in times of heavy rains.

The new bridge solved all these problems. Its 28' width allowed for two full lanes of traffic. Its heavy steel construction gave it the capacity to bear the weight of two 15-ton trucks at once. And its longer length and greater height above the river allowed more than seven times as much unobstructed waterway. Although the bridge's planned replacement will be even longer, the suitability of Bridge No. 475's design is attested to by its having survived the disastrous flood of 1955, which washed away many bridges and roads in the Farmington area.

Scott Swamp Road, which has borne several different route designations since its improvement by the state highway department, became an even more important part of the system after the completion in 1935 of the Farmington Cut-Off (present-day Route 6 east of Route 10). Directly extending Scott Swamp Road, the cut-off allowed travelers to bypass the heavily congested village center of Farmington in traveling to and from Hartford and, unlike the parallel state highway to the south, it bypassed the built-up centers of Plainville and Bristol.

Description of Bridge and Setting

Bridge No. 475 carries U.S. Route 6, a busy two-lane highway, across the Pequabuck River in Farmington, Connecticut. The Pequabuck River, which flows into the Farmington River about a mile north of the bridge, is a small stream which meanders through a wide, marshy valley. Marshland, both north and south of the bridge, form its immediate setting, though residential, commercial and industrial development are found a short distance away in either direction along Route 6. The wetlands in this area, which constitute a wildlife sanctuary known today as Shade Swamp, were called Scott Swamp in the 1920s.

The photographs in this documentation were taken in February 1988, prior to emergency repair work which altered the deck and railings of the bridge.

Built in 1927 by the Connecticut State Highway Department, Bridge No. 475 consists of a 55-foot-long steel pony truss and two 23' long concrete approaches. The roadway is 28' wide. The five-panel Warren truss is made up of the following members:

Upper chord and inclined end posts: box girder, 9" x 16", formed from channels, cover plate, and lacing.

Lower chord: paired 4" angles, with a plate along the bottom in the middle three panels.

Diagonals: paired angles, graduated from 3" at the center to 4" at the ends. Second and fourth diagonals are joined with lacing bars, first and third diagonals by stay plates at the ends and center.

Verticals: verticals at the panel points are paired 4" angles with centers and end plates. Mid-panel verticals are similar members, using 3" angles.

All connections are riveted, using large gusset plates.

The floor system's original concrete-slab deck was replaced in 1988 by a concrete-filled steel grate. Eight rolled I-beam stringers, 6" x 15", are mounted on angle brackets between the 12" x 36" plate-girder floor beams. Because the floor beams are attached, so that the bottom flange is flush with the lower chord, the roadway runs at a level almost halfway up the depth of the truss, which measures 8', center to center, between the upper and lower chords.

Mounted on the right-hand end post at each end of the bridge is a cast-iron builder's plate bearing the legend, "1927/BUILT BY/BERLIN CONSTRUCTION CO./BERLIN CONN."

The truss rests on pin bearings at all four corners, set on shelves at the ends of the approaches. The side walls of the approaches are 15-1/2' tall at this point, with the lower chord of the bridge about 10' above the water level. The span between the faces of the approaches is 52'.

The approaches are like hollow abutments, with the roadway carried on five transverse concrete beams running between concrete side walls. The middle three beams are smaller than the end beams. The approach walls thicken toward their footings, which are built onto a grid of piles driven into the river bank. The area underneath the approaches is sloped and is finished with a concrete facing, partly covered by silt and other river-deposited debris.

Until 1988, the approach spans had recessed-panel concrete railings, with the panels hammer-finished so as to create a textured effect. These were removed in the emergency repairs and replaced with a standard R-1 ("W-rail") guardrail. The original railings on the truss, which consisted of a series of 1/2" bar spindles between 3" pipes, had been replaced previous to this work by a railing of two steel channels. This, too, was replaced by "W-rail" in 1988.

Except as noted, the bridge has changed little from its original appearance. Even the first paint color, aluminum, has been continued to the present. The greatest visual change to the bridge is the addition of a 10" water main along the south side, supported from the truss on angle brackets.

Technological Significance:

Technologically, Bridge No. 475 represents the standardized truss design of the twentieth century. Unlike the idiosyncratic trusses of the nineteenth century, by the 1920s, trusses differed from each other only in the most minor details. Steel members and riveted connections were almost universal, as was the use of two basic truss patterns, the Warren and Pratt trusses, for almost all bridges. The basic proportions, load-bearing capacity, and concrete slab deck are all standard elements which reflect the demands of motor vehicle usage. Not surprisingly, Bridge No. 475 closely resembles several other surviving trusses in this span length designed by Connecticut State Highway Department staff engineers in the 1920s. Nor is it much different from bridges of the 1920s in other states. In fact, about the only difference between this bridge and those built fifteen years later following the hurricane of 1938 are somewhat heavier proportions in the later trusses and a greater use of rolled, rather than built-up, members.

The Bridge's Fabricator and Contractor

Berlin Construction was formed in 1901 by former officials of the Berlin Iron Bridge Company, a prolific fabricator which had been absorbed into the American Bridge Company the year before. The new company built a large plant in the Kensington section of Berlin and picked up where the old company had left off, selling bridges to small-town highway officials and doing a brisk business in the construction of steel-frame commercial and industrial structures. The firm received a large portion of Connecticut State Highway bridge building contracts in the 1920s, especially for small and medium sized trusses. They also were active in other states in the region, such as Vermont, where the firm was second only to the American Bridge Company in providing trusses following the flood of 1927. The firm is still in business, under the name of Berlin Steel Corporation.

L. Suzio Company, a Meriden, Connecticut, firm, was the contractor for the entire reconstruction of Swamp Scott Road. The firm was founded about 1903 by Leonardo Suzio, a former baker and grocer who moved into the masonry contracting business at the propitious time. In the emerging automobile

age, the reconstruction of both state and local roads created good opportunities for contractors with experience with concrete and crushed stone. Moreover, at that time in Connecticut, Italian immigrants made up the major part of unskilled construction labor. Thus, Italian-American contractors were uniquely well-suited to take advantage of lucrative state highway construction projects. In every area of the state, one or two firms, nearly all Italian-American, came to dominate the roadbuilding business. Like many of these, L. Suzio remains in business today, under the name L. Suzio Concrete Company.

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